# Energy Education Workshop

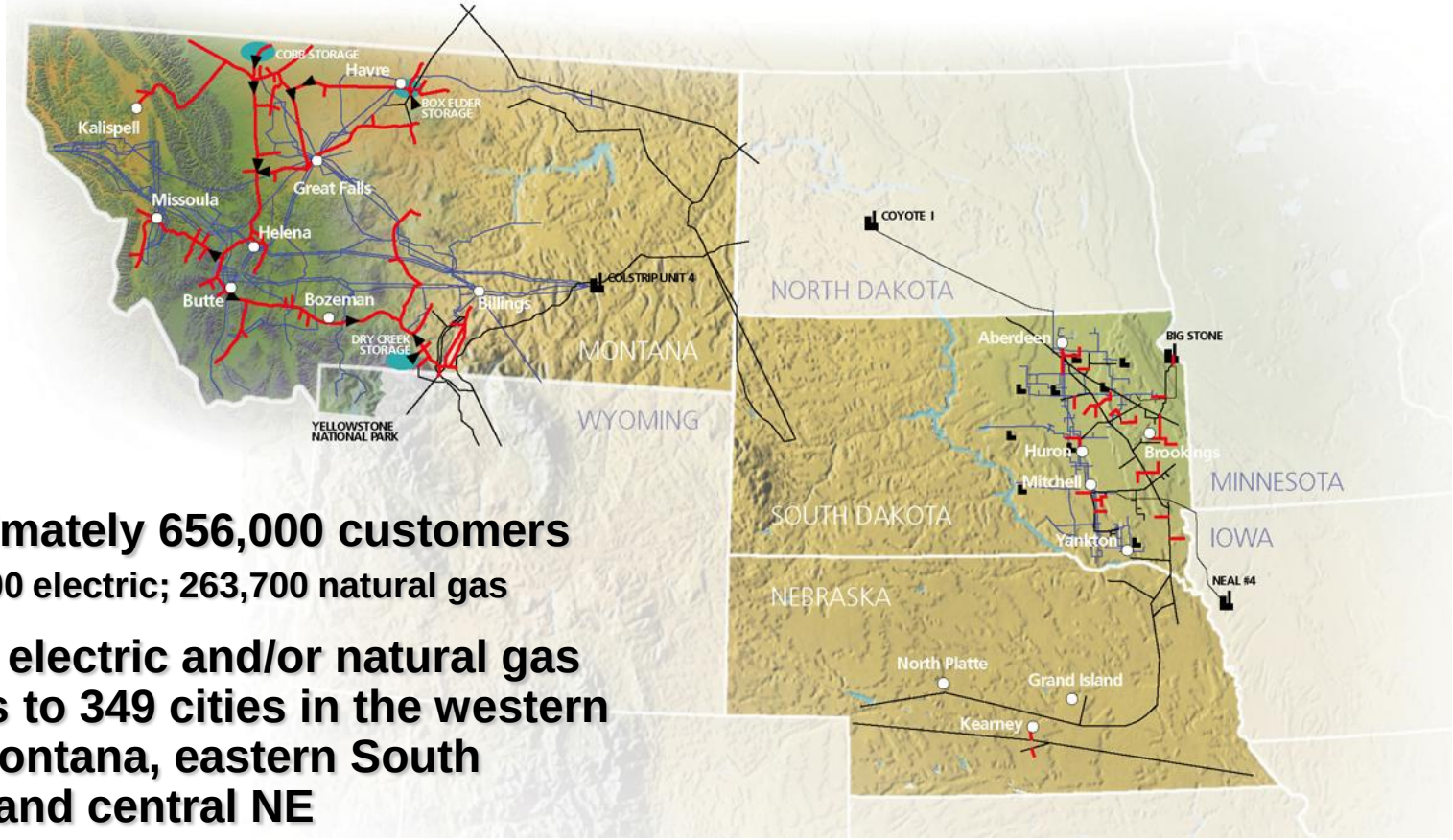
## Opportunities & Constraints to Selling Renewable Resources

**July 12, 2010**

John Hines
Chief Supply Officer

NorthWestern Energy
*Delivering a Bright Future*

# NorthWestern Energy…




- **Approximately 656,000 customers**
  - » **392,600 electric; 263,700 natural gas**
- **Provide electric and/or natural gas services to 349 cities in the western 2/3 of Montana, eastern South Dakota and central NE**
- **Annual Portfolio: $300 million electric, $250 natural gas**
- **Expenses approved by regulatory bodies**

- Electric transmission lines
- Natural gas distribution lines
- Supplier-owned electric or natural gas lines
- Electric generating plant
- Natural gas storage fields
- Natural gas compressor stations

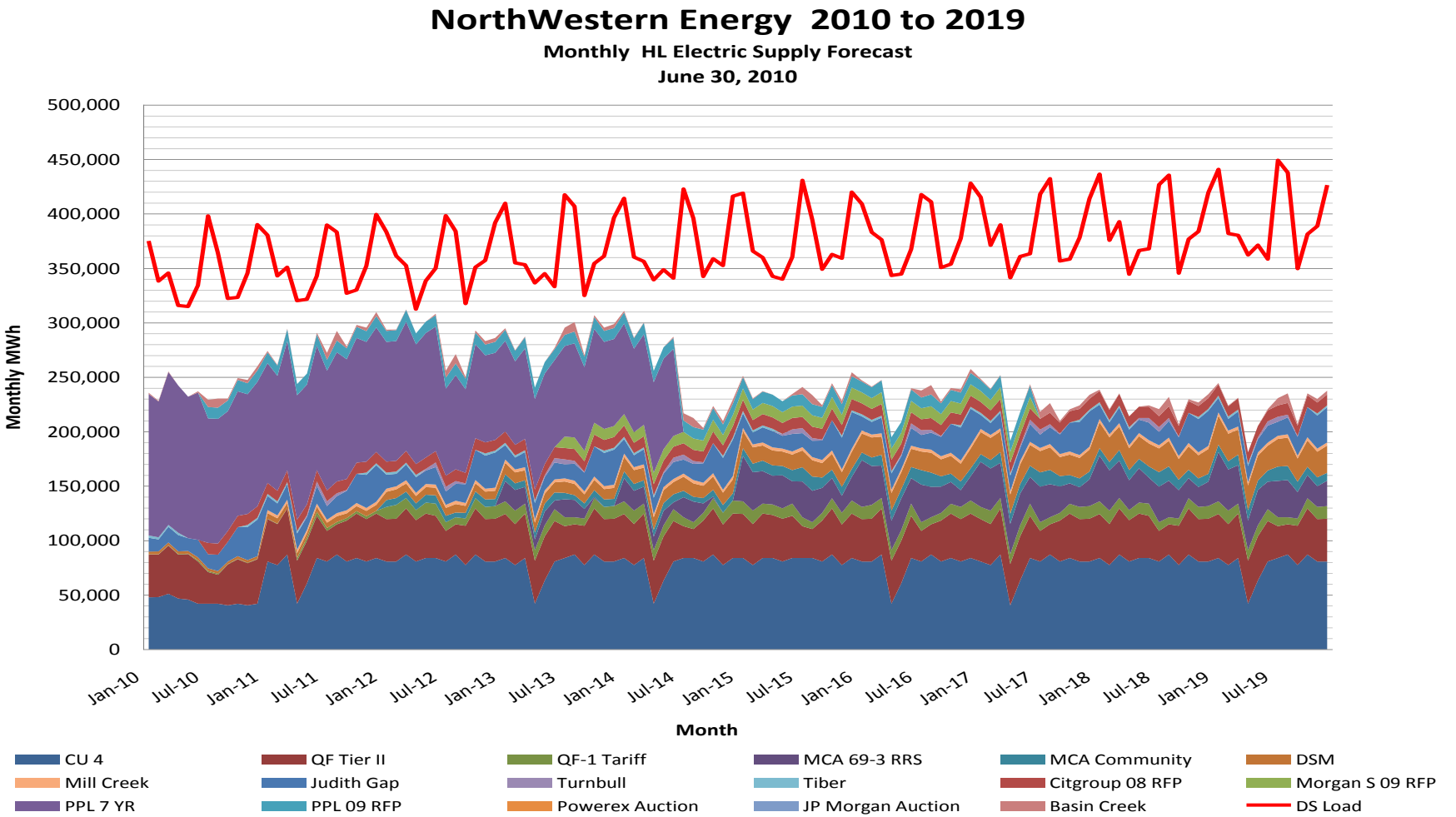
NorthWestern Energy
*Delivering a Bright Future*

# Opportunities to Sell Renewables to NWE

- **Supply Portfolio Needs Resources**
- **MT Renewable Portfolio Standard**
- **Electric Resource Procurement Plan: Carbon Legislation/rulemaking Identified as Biggest Risk to Portfolio**
  - **Will it be implemented;**
  - **When;**
  - **How much per ton.**

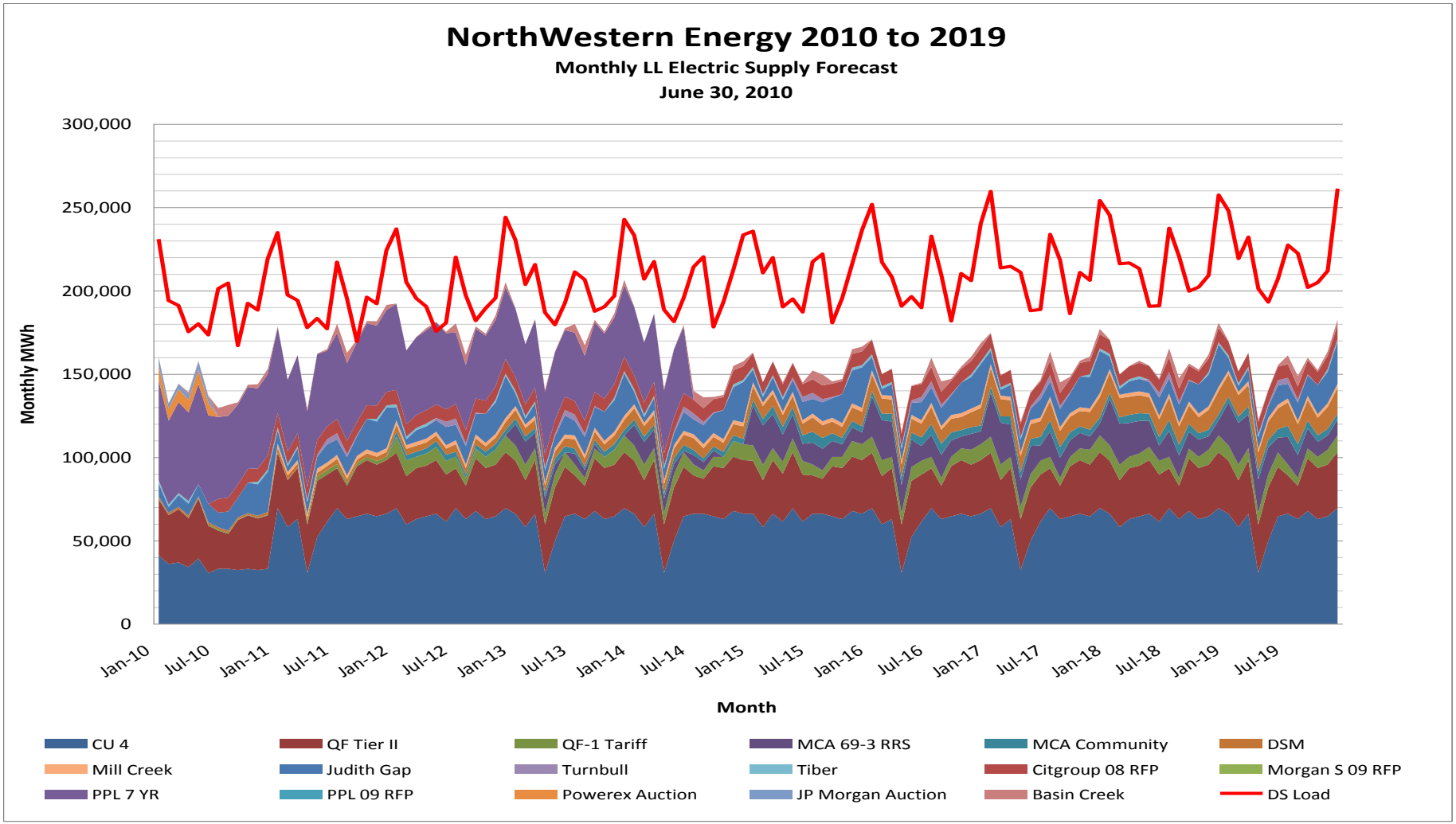
NorthWestern Energy
Delivering a Bright Future

# Supply Portfolio – Peak Load Need




NorthWestern Energy
Delivering a Bright Future

# Supply Portfolio – Off Peak Load Need




NorthWestern Energy
Delivering a Bright Future

# NWE RPS Compliance

| Estimated Additional Renewable Energy Credits (RECs) Required to Meet Montana RPS | | | |
|---|---|---|---|
| Year | Additional RECs Needed With No Additional Renewable Energy Projects | Additional RECs Needed With One 25 MW Wind Project Added In 2012 and 2013 | Additional RECs Needed With One 25 MW Wind Project Added In 2012, 2013, and 2015 |
| 2010 | - | - | - |
| 2011 | - | - | - |
| 2012 | - | - | - |
| 2013 | 67,789 | - | - |
| 2014 | 117,478 | - | - |
| 2015 | 429,446 | 1,513 | - |
| 2016 | 434,842 | 259,642 | 85,955 |
| 2017 | 440,263 | 265,063 | 177,463 |
| 2018 | 445,714 | 270,514 | 182,914 |
| 2019 | 451,189 | 275,989 | 188,389 |
| 2020 | 456,685 | 281,485 | 193,885 |
| 2021 | 462,201 | 287,001 | 199,401 |
| 2022 | 467,754 | 292,554 | 204,954 |
| 2023 | 473,333 | 298,133 | 210,533 |
| 2024 | 478,941 | 303,741 | 216,141 |
| 2025 | 484,578 | 309,378 | 221,778 |
| 2026 | 490,246 | 315,046 | 227,446 |
| 2027 | 495,976 | 320,776 | 233,176 |
| 2028 | 501,746 | 326,546 | 238,946 |
| 2029 | 510,845 | 335,645 | 248,045 |
| Notes: | Assumes average annual energy production from Judith Gap of 470,846 MWh. | | |
| | Assumes 25,000 MWh per year from Turnbull starting in 2011. | | |
| | Additional wind projects forecast to have high annual capacity factor (40% nominal). | | |

NorthWestern Energy
Delivering a Bright Future

# Potential Constraints …

- **Cost compared to alternatives**
  - » **Effect on Rates**
  - » **Current Resource Rates**
  - » **Avoided Costs**
- **Type of Resources Needed**
  - » **Greatest Need is Dispatchability**
    - ♦ **Heavy Load**
- **Transition back to vertically integrated utility**
  - » **Moving toward mix of energy purchases and owned resources**

NorthWestern Energy
Delivering a Bright Future

# Cost is Largest Obstacle
# Example: current market purchase options

**Mid C Peak and ATC Pricing - estimate on July 1**

| PEAK | Sep-2010 | Oct-2010 | Q4-10 | Q1-11 | Q2-11 | Q3-11 | Q4-11 | Q1-12 | Cal 11 | Cal 12 | Cal 13 | Cal 14 | Cal 15 | Cal 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $43.25 | $41.75 | $45.80 | $44.75 | $32.50 | $49.10 | $50.35 | $49.75 | $44.10 | $47.85 | $50.10 | $52.55 | $55.30 | $58.00 |

| ATC | Cal 11 | Cal 12 | Cal 13 | Cal 14 | Cal 15 | Cal 16 |
|---|---|---|---|---|---|---|
| | 40.26 | 43.66 | 45.49 | 47.30 | 49.60 | 51.84 |

NorthWestern Energy
Delivering a Bright Future

# Summary

- **NWE looking for "right" purchases**
  - » **Must be selective – from a portfolio and cost effective perspective**
  - » **Looking to rate base**
  - » **Must be able to recover costs**
- **Regarding biomass, Cost is an issue**
  - » **Greater certainty of fuel availability**
    - ♦ **Need longer-term commitments**
  - » **Fuel prices**
    - ♦ **Lower and longer term**
    - ♦ **Cost cap provision in RPS**
  - » **Avoided cost issues also problematic**

NorthWestern Energy
Delivering a Bright Future

# Summary – Smurfit Stone . . .

- **Allows us to put a plant on line without increasing pollution levels. We can work within Smurfit's existing permit and, with investment in newer control technology, should be able to reduce emissions.**
- **Opportunity to help sustain the forest products industry in western Montana and help improve forest health.**
- **Price remains the challenge. We've been improving the number, but we still have a ways to go.**

NorthWestern Energy
Delivering a Bright Future